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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

September 5, 1931.

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING SEPTEMBER 5, 1931.

HAVRE:

There was no rain the past week and temperatures were moderately high with maximums ranging from 84 to 90 and minimums from 48 to 55. The maximum at 1:00 p.m. to-day, September 5, was 95.

Some fall plowing was done. The second date of seeding winter wheat was made on September 1. The August 15 date of seeding is growing nicely. Winter rye seeded July 25 is good pasture in more favored places but on typical bench land is suffering from drought.

The dry, hot weather of August has checked native grass. The range is well cured but in many places it is shorter than it seemed two weeks ago.

JUDITH BASIN:

The weather the past week has been warm and dry. It has been ideal for combining of spring wheat, there still being a considerable part of the acreage to be harvested. A good rain is needed to put the soil in good shape for winter wheat. A few fields have already been seeded but the majority are waiting until September 10 or later. Winter rye seeded for pasture a week ago has emerged with good stands.

Fall plowing on the rotations has been in progress during the week. Two more days should see the operation completed. Harvest of the corn on the rotations will be started to-day, September 5. A commercial field of Markton oats was threshed during the week, the yielding being 18 bushels per acre.

Recent station visitors have included M. A. McCall, Clyde McKee, F. L. Geiseker, and L. R. Reitz.

Maximum temperature 90; minimum 46; precipitation, none.

DICKINSON:

Hot, dry weather has dried out and hastened maturity of all late crops.

Most of the corn on the rotations was harvested September 3 and 5. The only plots left of the main field were those continuously cropped and on fallow where enough water is still left in the soil for some growth.

Siberian millet on Rotation 242 and the millet varieties were harvested August 31.

Visitors included Dr. H. C. Hanson, Botanist, and T. E. Stoa, Assistant Agronomist, North Dakota Agricultural Experiment Station, Fargo, North Dakota, and M. B. Johnson, Agent in Animal Husbandry, Bureau of Animal Industry, Watford City, North Dakota.

Maximum temperature 97; minimum 44; precipitation, .01 inch.

MANDAN:

Agronomy

The past week has been favorable for field work.

Corn was harvested in the rotations and a good supply of seed corn was picked from the seed blocks.

Sorgo varieties are being cut to-day, September 5. The yields will be very good.

Weather has been mild. It was hot on September 4 for this time of the year.

Maximum temperature 100; minimum 42; precipitation, none.

Cooperative Grazing Experiment

Native vegetation is drying up and curing well. The smaller pastures are very short and it was necessary to move the 30-acre steers to the reserve pasture. The brome grass pasture was closely grazed and the steers were given access to a small native pasture at the end of August.

Mandan, continued:

Cooperative Grazing Experiment, continued.

The gains of the steers in the larger pastures were above normal for the month, and their gains are now the highest that have been obtained during the first 100 days.

The following table shows the gains of the steers during August and for the 105-day period.

Pasture (acres)	No. Steers	Gain in pounds per head	
		August	105 days
100	10	60.0	341.5
70	10	63.0	347.5
50	10	40.5	303.0
30	10	-25.0	178.5
Rotation (70)	14	72.1	315.0
Brome (25)	8	-3.1	261.9
Brome (10)*	7	73.6	300.7

* On reserve pasture during August.

Arboriculture

Buffaloberry seed has been washed and stratified. A considerable quantity of dead wood has been removed from Norway and Carolina poplars on the west side of the snow trap in the main shelter belt. Loss report cards have been mailed to all cooperators who received shelter-belt plantings last spring.

Horticulture

Tomato picking has been in progress most of the week. The yield is good. Selections have been made from the crop and the seed washed out.

Cantaloupes in the breeding experiment are beginning to ripen.

Some of the later varieties of plum, such as Stoddard, Wyant, and Hawkeye are ripe.

Practically all the fruit has been picked.

ARDMORE:

Field work, with the exception of plowing fields, is nearly completed, and the staff was reduced to a winter basis. All of the sorgo that is ready to cut was harvested during the week.

A rain on the night of August 31 brought the total for the month to 1.34 inches and the total for the year to 6.45 inches.

The steers were weighed on August 29. The lot in the 80-acre pasture without grain continued to hold their own. All other lots made good gains.

E. Z. Russell, of the Bureau of Animal Industry, visited the station during the week.

Maximum temperature 100; minimum 48; precipitation, .44 inch.

ARCHER:

During the week the weather has been clear and warm. A rain of .52 of an inch precipitation occurred during the evening of August 30. This rain was beneficial to the winter wheat that had been seeded and stimulated further seeding.

Corn, beans and potatoes are maturing and the sunflowers are ready for silage. The Northwestern poplars have lost a large portion of their leaves.

Work at the station consisted of seeding winter wheat, harvesting beans, hauling hay and grinding feed for the dairy herd.

Director W. L. Quayle visited the station September 4.

Maximum temperature 90; minimum 42; precipitation, .52 inch.

AKRON:

Unseasonably hot weather prevailed over the past week. Rainfall early in the week totaling .13 of an inch offered no relief from the drought which has prevailed since the inch of rain recorded August 7.

Akron, continued:

August passed with only 1.04 inches of precipitation, a little less than half normal. The rainfall thus far this year has run only 62 per cent normal.

Current work was accomplished. This included the fanning of grain, the threshing of nursery head-row grain, the harvesting of the proso nursery, the harvesting of early proso varieties, the removal of bags from bagged heads of grain and forage sorghums, etc.

Second date of seeding winter wheat on the Cereal Project was made promptly on September 1. August 15 seeding is well emerged on fallow land preparation but only spottedly emerged on cornland preparation.
Maximum temperature 94; minimum 48; precipitation, .13 inch.

NORTH PLATTE:

Potatoes on the dry land project harvested early in the week ranged in total yield from 44 to 101 bushels per acre and averaged 77 bushels. Yields of No. 1 grade ranged from 22 to 74 bushels and averaged 54 bushels. This is the poorest crop produced since 1921 and the only total yield average below 100 bushels per acre since 1923.

Practically all corn plots on spring plowing after small grain had become too dry to make further growth and were harvested during the week. Corn following corn and on early fall plowing after small grain is still partially green and will be left standing for another week.

August rainfall was .80 inch. The July-August total was 1.59 inches in contrast with a normal of 5.13 inches. The deficit reported by the North Platte Weather Bureau for the year to date is 6.45 inches. This deficit is 43 per cent of the normal for the period.
Maximum temperature 90; minimum 37; precipitation, none.

COLBY:

This has been another dry week. The weather has been unusually hot also. All crops have deteriorated to some extent. The corn fields are taking on a whitish cast. Some of the sorghums, especially those on fall plowing are drying considerably. The soil is dried out for several inches below the surface even on summer fallowed ground.
Maximum temperature 100; minimum 46; precipitation, none.

GARDEN CITY:

Cultivation of wheat seed beds and fallows was started September 4. Considerable volunteer was starting. It was necessary to cultivate in some early fall listed wheat stubble which goes into row crops next spring to destroy volunteer.

Ground is in excellent condition to work. Another rain of 1.19 inches, which fell the fore part of the week has helped to maintain plenty of moisture for row crops and put wheat ground in shape.

Sorghums are making good progress towards maturity. Unless we have unusually early frost most kafir and late sorghums on the dry land station will mature satisfactory. Some of the late varieties on the State Project will undoubtedly be caught by early frosts before maturity.

Maximum temperature 98; minimum 52; precipitation, 1.19 inches; August rainfall totaled 4.28 inches, 1.93 inches above normal.

HAYS:

Temperatures for the week have ranged between 53 and 101 degrees with no precipitation. Everything is getting dry again and much in need of rain.

Alfalfa on the plots (Rotation 142) did not make sufficient growth for a second crop. A thin growth to a height of about six inches was made, which for the most part is now dead. However, the plants are alive and there is a good stand. Bromegrass likewise has produced little growth since the first clipping on the commercial fields. Bottom land alfalfa is now being harvested for the third time. Sorghums are maturing, the earliest being practically mature at this time.

The work during the week has consisted largely of some tillage work of various kinds, road and drainage ditch repair, harvesting the corn plots, and some fence repair.

TUCUMCARI:

The past week has been moderately warm, calm, and dry. Crops continue to appear considerably better than normal, but are showing the effects of the four weeks drought. Sudan and cowpeas were harvested, while cowpea seed was picked and broomcorn plots were pulled. Counting of plants and stalks was continued, while the balance of bags from bagged heads were removed.

Maximum temperature 97; minimum 52; precipitation, none;
wind velocity, 3.6 miles per hour; evaporation, 1.762 inches.

DALHART:

The weather has remained hot and dry with drying winds at times during the week. The lack of sufficient moisture showed on many plots during the week and on all of the cowpea plots and many of the soybeans. It was necessary to harvest all of the remaining cowpea variety plots and all of the rotation and increase fields of cowpeas during the week. Yields equalling the average or better are expected with the cowpeas. The soybean rotation plots were harvested for hay and from 15 to 20 varieties from each of the soybean nurseries. The early sorghums are fast coloring to maturity due chiefly to the premature ripening. A few of the early planted plots are showing evidences of lodging. Crops, other than cowpeas and soybeans, show very little premature ripening except a few varieties of sorghums on the first date of planting. Cotton bolls are forming fast and a good yield is in prospect. The grape harvest continued during the week. The quality of the grapes does not appear to be affected by the hot, dry weather.

The accumulated deficiency of rainfall for the first eight months of the year exceeded two inches. Incidentally, the first eight months of the year was the driest similar period since 1917.

Maximum temperature 96; minimum 52; precipitation trace;
wind velocity, 4.5 miles per hour; evaporation, 1.849 inches.

BIG SPRING:

The past week has been a continuation of the hot, dry weather, which has prevailed during the past month. Although .31 inch of rain was received on August 31, it was so local in character and so hot immediately afterward that little or no benefit was obtained from it. The total rainfall

Big Spring, continued:

received during the month of August was only .95 inch as compared with a normal of 1.86 inches. This amount was received in three rains so that no one of them was of much value. As a result of this prolonged dry spell crop yields will be very materially reduced from the prospects of a short time before.

All cowpea hay from the rotations plots and an increase field was hauled to the barn this week; a very good quality of hay was obtained. Kafir in the rotations and several plots in the grain sorghum varieties were harvested. Other work has consisted of selecting seed and picking cowpea seed.

Maximum temperature 100; minimum 63; precipitation, .31 inch.

LAWTON:

Prevalent August temperatures that were so favorable to crop development and so agreeable are sharply contrasted by those of September, to date. Maximum temperatures the past week, that ranged from 91 to 104 and averaged 97, burned the foliage on sorghums and cotton severely. Grain maturity on sorghum crops that lagged so extensively in August was hastened very rapidly the past few days and considerable heading was done the latter part of the week.

Cotton bolls are opening much faster than was anticipated ten days ago, and the first picking on more than 35 varieties was made September 4. Although the cotton yields are likely to be pretty good, the strength of fiber is being depreciated by the lack of sufficient moisture to provide normal maturity. Picking will likely become quite extensive in the near future if present weather conditions continue.

The total precipitation of 1.67 inches in August was 1.22 inches below normal. The total precipitation from January 1 to August 31 was 15.11 inches, and that is 6.19 inches below normal for that period.

C. H. McDowell, Superintendent of the Texas Substation at Iowa Park, Texas, was a recent station visitor.

WOODWARD:

The mean rainfall to the end of September since the station started totals nearly the same as the actual rainfall this year for the same period. However, the mean for March is 1.57 and 4.31 was received. This was responsible for the large yield of wheat. The mean for July and August is 4.97 and only 2.69 was received.

Due to moisture stored in the soil by early rainfall the sorghums made a good vegetative growth. Many of the earlier sorghums headed well. The later sorghums and the later planted early sorghums have been caught by the drought before heading. As a rule the opposite is true, plants heading after the middle of August meeting the best conditions.

A trip was made to Enid about 100 miles east of here the latter part of the week. A much greater acreage of cotton was noticed than has ever been planted before so far north. Most of it had been planted so late that it will not mature, but it is standing the drought better than any other crop. Experience on the station indicates that very early planting is essential and that good stands can be obtained if the seed is treated with copper carbonate or other chemical that keeps moulds from developing on the seed. If mould is allowed to develop it kills the young plant as soon as it emerges.

Farmers have apparently prepared about the usual acreage for wheat anticipating that the long summer drought will be followed by a wet fall, so that wheat will at least be valuable for pasture.

Work of the week has consisted in harvesting some of the earlier sorghums and cowpeas, finishing the grape harvest, putting in a gas line and keeping things tidied up generally.

Maximum temperature 102; minimum 59; precipitation, .24 inch; evaporation, 2.400 inches.

HUNTLEY:

The weather during the past week has been warm for September. One or two days were exceedingly sultry and threatened rain toward evening but as has commonly been the case this season a dust storm was received in place of a shower.

Winter wheat and rye were seeded in the rotations, pasture plots and variety tests. With the exception of plots on which green manure crops were grown and plowed under the seed beds were almost too well pulverized. The green-manured plots were extremely cloddy. All plots were dry below the depth of planting except in spots where run-off water had concentrated.
Maximum temperature 96; minimum 49; precipitation, none.

PENDLETON:

The work the past two weeks has consisted chiefly of recleaning wheat, hoeing weeds and finishing the subsoiling. The rotation beans were harvested with a revolving rod weeder and threshed with a small stationary thresher. Bean yields were very low, there being only a few pods per plant.

The following are the yields of winter wheat after fallow. Fertilizers were applied at seeding time and in the spring as a top dressing.

Checks no fertilizer	Average 10 plots	43.0 bu. per acre.
Nitrate of Soda, 150 lbs. per acre	at seeding time	40.3 bu.per acre.
" " " " "	as top dressing in spring	42.3 " " "
Ammonium Sulphate, 150 lbs.per acre	at seeding time	41.3 " " "
" " " " "	in spring	42.1 " " "
Superphosphate, 200 lbs.per acre	at seeding time	42.2 " " "
Strawy Manure, 10 tons per acre as top dressing in	the spring	43.0 " " "
Complete fertilizer, 7-8-2, 150 lbs.per acre	at seeding time	38.4 " " "
Complete fertilizer, 7-8-2, 150 lbs.per acre as top	dressing in spring	38.6 " " "

Work was started this week on the excavation for the office basement. The office building will consist of two office rooms, laboratory, and a full basement. The cereal nursery seed storage room will be in the basement. The office building will be 18' x 50' in size.
Maximum temperature 94; minimum 40.

NOTE:

Mr. B. F. Barnes, Superintendent, Field Station, Dalhart, Texas, writes that he has a 32 volt,direct current electric fan and that he has no further use for it. If any station of the Division of Dry Land Agriculture desires the fan in question, arrangement will be made for its transfer upon receipt of request in Washington Office.

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NOTE:

Under date of September 8, 1931, Dr. Wm. A. Taylor, Chief of Bureau, issued B.P.I. Memo. 599 reading, as follows:

> "It is suggested that in complying with requests received in your Division for photographs to be published outside of the Department, all such requests together with the illustrations which it is contemplated to furnish, be first submitted to the Chief of the Bureau through the head of Division, for approval. Such procedure is deemed desirable in order that we may be advised of the character of the use to be made of the photographs and avoid as far as possible their publication for exploitation purposes or in connection with sensational stories, etc. In supplying photographs, those which have already been published or which are not likely to be needed at any time for publication by the Bureau, should be furnished."

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U. S. DEPARTMENT OF AGRICULTURE

September 12, 1931.

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REPORT FOR THE WEEK ENDING SEPTEMBER 12, 1931.

HAVRE:

Temperatures during the past week have been moderate with the exception of the 5th and 6th. On the 5th, the maximum temperature reached 98, this being the highest temperature for September since 1880. On the 6th, the maximum was 95. Since that time the maximums have been moderate. A minimum temperature of 43 was recorded on the 8th.

Most of the fall plowing was completed during the week. Because of the dry condition of the soil, plowing was rather difficult. Corn on most of the rotations was husked during the week. Moisture samples were taken from each plot and these will be used later in determining the shelling percentage. Seed corn has been gathered from the rotation plots and from one commercial field.

Fencing is being done preparatory to turning the spring pigs in on 40 acres of Gehu flint corn.

Visitors during the week included Louis Vinke and W. F. Diskson, of the Animal Husbandry Department at the State College, S. E. Clarke, of the Dominion Range Experiment Station at Mannyberries, Alberta and L. E. Kirk, of the University of Saskatchewan at Saskatoon.

JUDITH BASIN:

The weather during the week has been favorable for the completion of field work. Fall plowing and other tillage work on the rotations were completed during the week. Winter wheat and fall rye were seeded; with the exception of the fallow and green manure plots all seed beds were very dry and cloddy.

The seeding of winter wheat is in progress throughout this section. There is very little clean summer fallow and the outlook is not very encouraging. Most of the summer fallow was plowed early, and much of it has not been cultivated since. Weeds are 6 to 12 inches high over most fields.

The harvesting of corn on the rotations has been completed.
Maximum temperature 92; minimum 39; precipitation, .30 inch.

SHERIDAN:

Weather continued warm over the past two weeks with the exception of the last two days, which were much cooler. Day temperatures were considerably above the normal for this period of the year from the 4th to the 7th.

Preparation of land for fall seeding has been completed, and the rotation plots staked. Some ground plowed in fair condition, while on other ground the plow could only ride on the dry hard-pan below the surface and push over the loose dirt 3 to 4 inches in depth.

Winter wheat was seeded yesterday, September 11, on five acres of corn ground in Field I, and seeding of rye in pastures and green manure plots was completed to-day.

Superintendent Thompson, of the Experiment Station at Gillete, visited the station on the 5th.

Week ending Sept. 5:
Maximum temperature 98; minimum 48; precipitation, trace.
Week ending Sept. 12:
Maximum temperature 99; minimum 35; precipitation, trace.

DICKINSON:

Hot weather early in the week ripened late crops rapidly, but the weather was somewhat cooler toward the end of the week with a minimum of 34 degrees this morning, September 12.

Silage corn was cut September 8 and run into the silo on the 9th. The yield was about 3-1/2 tons per acre of a high quality of silage.

Several bushels of seed corn were picked from the field before the silage was cut.

Flax on the rotation was cut on the 11th, as was the June 25 seeding of this crop. Prolific spring rye, Gopher oats, and Hannchen barley seeded June 25 were also cut on the 11th. The yield of these crops was low but better than the early seeding.

Cane varieties were harvested on the 10th.

Visitors included Ray Harding, County Agent, Hettinger, N. Dakota.
Maximum temperature 98; minimum 44; precipitation, trace.

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Visitors included Ray Harding, County Agent, Hettinger, N. Dakota.
Maximum temperature 98; minimum 44; precipitation, trace.

MANDAN:

Agronomy

The week continued hot and dry. Much of the remaining corn and sorghum has dried up green.

The last of the corn and sorghum harvest was completed. This consisted of the variety corn, the silage corn and miscellaneous seed blocks of corn, sorghum and Sudan grass. All selfs and crosses in the Northwestern dent corn nursery were harvested, labeled and put up to cure. Early awnless heads of Dakota Amber Sorgo, Freed sorgo and Sudan grass, were harvested for increase seedings next year. Soil moisture samples were taken in tillage methods of corn in the main field and in connection with some of the grazing experiments. The silo was filled on the 11th. Corn from the silage corn variety test and from a block of Payne white dent was used.

Maximum temperature 104; minimum 41; precipitation, none.

Cooperative Grazing Experiment

Hay was cut and yields obtained from the native grass mowing experiment. Clipping and counting were continued during the week.

Horticulture

The hot sun on September 5 did considerable damage to tomatoes, cantaloupes and other garden crops. The side exposed to the sun was burned and spoiled.

Most garden crops have been yielding good crops. Tomatoes, beans, cantaloupes, peppers, cabbage, cauliflower, and carrots are being picked. The season for sweet corn is over.

Wild plums are being picked for seed. Practically all fruit in the orchards has been picked. The grape crop was very light. Terry was one of the best yielders among late season plums.

Mandan, continued:

Arboriculture

The conifer nursery fields have been trenched and irrigated during the week. It was necessary to build 200 feet of dam in the Heart river in order to obtain sufficient water to run the irrigation pump.

A quantity of dead wood, chiefly of poplar and willow species, has been removed from station plantings.

Visitors of the week included Harold F. Schotz, Lake States Station, Minn., G. F. Farrell, Office of Cooperative Extension Work, C. F. Monroe, Director, Agricultural Extension, North Dakota Agricultural College, M. W. Johnson, Bureau of Agricultural Economics, and J. A. Parker, R. L. Shotwell, Fred A. Morton, Bureau of Entomology.

ARDMORE:

The week was the hottest September week ever recorded at this station. The maximum temperature reached 100 degrees on four successive days, and reached 90 degrees every day of the week.

Field work consisted of cutting sorgo in the variety plots and small fields.

The steers were weighed on three successive days during the week and twenty four head were shipped on September 12. The remaining steers will be fattened. The lot of steers receiving barley on pasture gained approximately 110 pounds more per head than that on similar pasture without grain supplement. Roughly, about 10 pounds of barley were required for each pound of additional gain.

Final three-day weights of the pigs on limited ration were commenced on September 12. In spite of very short pasture the pigs made normal gains. The self-fed pigs on pasture continue to make much more rapid gains than those in the dry lot. The difference is much more pronounced than in past years when the amount of feed in the pasture was much greater.

Ardmore, continued:

Arthur Semple, of the Bureau of Animal Industry, spent several days at the station assisting in dividing the steers and in arranging in the exchange of two-year-old steers for yearlings. The exchange this year will be made with the Valentine, Nebraska, Substation. Mr. Semple will be at Omaha when the steers are sold and will secure data on the selling price and shrink of the different lots.

Hat Creek is again dry and we are again hauling water for the livestock. To date Hat Creek has been dry 55 days since May.
Maximum temperature 101; minimum 47; precipitation, trace.

ARCHER:

During the past week the weather was hot and dry with a maximum temperature of 90 degrees or more on four days. The average maximum temperature for the week was 89 degrees.

The hot, dry weather at this time of the year in connection with the dry condition of the soil has caused the corn to mature very rapidly. A considerable portion of the crop burned before it matured. This condition is making the corn silage crop very much smaller than it otherwise would have been. The sunflowers are also burning.

Work at the station has consisted of cutting the corn on the rotation plots and the cutting of silage corn, which will approach completion to-day, September 12. When the teams and wagons have not been busy hauling corn they have been used to haul hay. Both the hay and silage crops will be very short.
Maximum temperature 92; minimum 50; precipitation, trace.

AKRON:

Extremely hot weather still characterizes, or dominates the agricultural outlook in this region. Maximum temperature of better than 95 was recorded on five of the past seven days. Rainfall was received on two days but it was ineffective in either moistening the ground or in breaking the run of high temperatures.

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Akron, continued:

Harvesting has held attention during the week. The projects harvested in good season were the proso variety, the proso rate, and the proso date, experiments, the uniform cropping series corn, the remainder of the rate and spacing corn, the remainder of the rotation corn, and the corn in the general forage variety experiment. The corn binder operated in a cloud of dust, and the ground was left so loose and finely powdered as to cause real worry from soil blowing even this fall.

Hard south wind prevailed all day Thursday, September 10, which had the air filled with dust particles though there was but little sweep-blowing due to the almost universal vegetation cover.

With the removal of the rotation corn everything is in readiness for seeding the winter wheat plots, which will probably be delayed until rain is received or until there is a sharp break in the mean temperature.

H. B. Osland and Mr. Loosli visited the station early in the week in the interest of livestock feeding in cooperation with the college.

Maximum temperature 98; minimum 53; precipitation, .11 inch.

NORTH PLATTE:

All previous records for heat and drought for the month of September were broken during the past week when temperatures of 100 degrees or more were recorded on four days. The highest was 105 degrees, and the mean maximum, 100.1 degrees. The mean for the week was 83.2 degrees. Average wind velocity was 8.3 miles per hour, and average daily evaporation, .391 inch. Precipitation, trace. During the 25 years of record at this station, September temperatures above 100 degrees had been recorded only twice. The previous absolute maximum for September at both the Weather Bureau and the Substation was 101 degrees.

Late plowing and disking for winter wheat is under way, and seeding will be begun during the coming week. No germination will be possible until moisture is received, except possibly from deep seeding on fallow. There has not been sufficient moisture since harvest to start volunteer grain on any of the plots.

All corn on the D.L.A. project, except the plot on fallow, has been cut and shocked.

COLBY:

This has been another dry, hot and windy week. The maximum temperature was above 100 on three days. On the 5th the temperature rose to 105, which lacked one degree of being the hottest day of the summer. The day-time wind velocities have been very high, filling the air with dust, but no serious soil blowing has taken place.

The corn on the station is almost dried up. Ten of the corn plots on the D.L.A. project, which dried up completely, were cut Sept. 11. Some corn will be produced on all of them, but the ears will be practically all nubbins. The sorghums are standing the dry weather and winds remarkably well. This is no doubt due to the excellent soil moisture conditions that prevailed at seeding time.

Among the visitors this week were a number of northwest Kansas bankers who attended the farmer-banker school at this station on September 10.

Maximum temperature 105; minimum 61; precipitation, none.

GARDEN CITY:

Work the past week has consisted principally of getting ready for the annual field day, which was held on the 10th. An additional feature of the field day program this year was an achievement program for the county wide 4-H clubs. Every 4-H club was represented by individual exhibits of its members. The girls brought their clothing project work and the boys' exhibits were composed of baby beeves, pigs and crops exhibits. The plan was such a success in helping to get out older people that we hope to have the 4-H clubs meet every year and exhibit part of their work here at the station on field day.

The crowds present were not much larger than usual; however, interest was good and the presence of the boys and girls with their 4-H club exhibits added considerably to the day's program.

The past week has been unusually windy and hot. Sorghums are maturing rapidly. Milo will be cut in another week or ten days.

Maximum temperature 103; minimum 64; precipitation, none.

HAYS:

Thus far September has a record of seven out of twelve days with a maximum temperature above 100 degrees. The highest being 111 degrees and second highest 106 degrees. Along with the high temperatures high winds have prevailed almost continuously.

A temperature record dating back to 1868 shows no maximum temperature above 105 for September previous to 1931. Within the last 25 years September, 1922 is the only September that has had as many as seven days with 100 degree maximum temperature and the average temperature for the period was considerably below the seven-day period this September.

All feed crops are maturing or drying up and are in danger of lodging if heat and winds continue.

Work during the week has included the last date tillage work on stubble land for wheat with a lister, plow, one-way, and chisel, disking of some stubble plots to be plowed later, and setting of a few more permanent plot markers. Heading of sorghums was commenced on the project yesterday, September 11. Sorghum harvesting is in progress on the cereal and forage projects and on the commercial fields.

Maximum temperature 111; minimum 70.

TUCUMCARI:

September to date has been characterized by July temperatures, high evaporation, practically no precipitation, and fairly constant wind movement. August was unusually cool, while September mean temperature has been 78, exactly the same as the 26-year average July mean.

All crops are urgently in need of moisture; milo is ripening prematurely and kafir is apparently unchanged from two weeks ago. Corn is firing severely, peanuts are wilting, and even cotton appears to be in need of moisture. All crops made unusually rank growth due to above-normal precipitation to mid-August, so will demand considerable water for normal development.

A total of .29 inch has been received in four showers in the past five weeks. Of this, .04 inch has fallen in September, while evaporation has averaged .357 inch daily.

Tucumcari, continued:

During the week about twenty tons of Sudan and cowpea hay (plot and increase) were hauled, weighed and stacked. Increase cowpeas averaged about 3200 pounds cured hay per acre, Sudan about the same, while cowpeas in plots have not been averaged, but will approach 2600 pounds on old land and perhaps 3200 pounds on sod.

Broomcorn plots were pulled and the brush seeded; cowpeas were cleaned and weighed after completion of picking plots for seed yields; stalk counts on late date plots were made, and evergreens were sprayed.

Continuation of dry weather will necessitate considerable harvesting next week. The late date plots in the grain sorghum block are firing so severely that grain yields will probably be unusually low, while the early plots should considerably exceed the long-time average. Unless rain is received soon it is very probable kafir in rotation plots will not fully mature, for at present it is developing very little.

Maximum temperature 96; minimum 62; precipitation, .04 inch; wind velocity, 6.1 miles per hour; evaporation, 2.490 inches.

DALHART:

The weather has remained dry, hot, and windy during the past week. This has been conducive to rather premature ripening of the early-seeded sorghums. Several sorghums were headed during the week and others are ready to harvest. The coming week will probably see the harvest of most of the first date of the sorghum varieties. Yields from this date of planting are going to be lighter than have been in prospect all season. Other sorghums are drying fast but would still respond to moisture.

The cotton was sprayed September 10 for the cotton leaf worm. This was the first outbreak of this pest for the season and is about a month later than the first outbreak last season.

Practically all varieties of soybeans have been harvested for hay. Some varieties were hardly far enough advanced but the dry weather caused the leaves to start falling prematurely. The rows left for seed of the different varieties are to all appearances not developing the seed normally. In one replication all, except two, of the 57 varieties of soybeans have been harvested for hay while none of the seed is mature. Usually it is necessary to harvest seed plots before the later hay plots will do to harvest.

Dalhart, continued:

Work during the week has consisted in picking grapes, pulling and seeding broomcorn, spraying cotton, unloading a car of coal, making sucker stalk counts, harvesting early maturing sorghums, cutting some corn and sorghum plots, bagging smut heads in sorghum nursery, and other seasonal jobs.

Maximum temperature 94; minimum 56; precipitation, none;
Wind velocity, 5.4 miles per hour; evaporation, 2.342 inches.

BIG SPRING:

This week has brought no relief from the dry, hot weather, which has prevailed during the past six weeks. The maximum temperatures have not been quite so high, but otherwise conditions have remained unchanged. Cotton is opening very fast and the grain sorghums are rapidly maturing as a result of this prolonged dry spell.

Most of the milo plots in the rotations will be ready for harvesting during the coming week, as many of them are now falling down; many of the cotton varieties will be ready for the first picking at that time.

The remainder of the kafir plots in the rotations was harvested during the past week, as was also a number of the grain sorghum varieties. The April 15 and May 1 dates of Half and Half cotton and several of the single row varieties were picked during the week. Other work consisted of making stand counts and selecting seed of grain sorghum varieties. An increase block of Spur feterita and one of Standard kafir were also harvested.

J. S. Mogford, of the Texas A. & M. Agronomy Department, and J. H. Martin, of the Cereal Division were station visitors during the week.

Maximum temperature 98; minimum 65; precipitation, none.

LAWTON:

Cotton picking, and heading and threshing of grain sorghums required all of the available labor throughout the past week of hot, droughty weather.

Firing of sorghum foliage has been intense, but the central stems remained green, permitting the late heads to reach maturity.

Lawton, continued:

Deterioration of cotton has been very rapid. 50 to 75 per-cent of all the bolls are open or partly so. Dry weather has forced the bolls to crack open while small and green. Spreading of the locks under such conditions is incomplete, and picking is slow, tedious and painful. The fiber is weak and of poor character. Only a small percentage of the bolls would be benefited by rain now.

Completion of seed beds for small grains is impossible now, and date of seedings will have to be dealyed until more moisture is available.

Visitors at the station during the week included Messrs. Martin and Seiglinger, L. W. Osborn, Extension Agronomist, Stillwater, Oklahoma, and several local farmers.

The last rain of any consequence was recorded August 3.
Maximum temperature 104; minimum 63.

WOODWARD:

Wheat planting here starts about the middle of September. In land that has been worked during the summer there is usually enough stored moisture to insure a good growth to this early planted wheat, which furnishes valuable pasturage. The past summer there were no rains of enough volume to permit the storing of any moisture even on land kept free from weeds. The long drought has rendered native pasture of little value, cut the feed crops very short and made prospects for wheat pasture poor. Rains coming from now on may cause erosion, leaching and beating of wheat into the ground and cause more damage than benefit.

Work of the week has consisted of harvesting cowpeas and sowed feed and variety sorghum plots, watering lawns and nursery stock and installing gas line in buildings. A man has been on constant patrol with a shot gun, guarding the sorghum plots from several kinds of birds to which they seem more than usually inviting this season.
Maximum temperature 104; minimum 67; precipitation, .10 inch;
evaporation, 3.012 inches.

PENDLETON:

The past week has been cool and cloudy, threatening rain every day. Three slight showers totaled .03 of an inch precipitation. The first frost of the fall season occurred on September 8, with a temperature of 29 degrees.

The excavation for the office basement was completed this week. Carpenters will start construction next week.

The early corn varieties in the varietal trial were harvested this week. The yields will be quite low. Of the five varieties of corn grown in the varietal trial, Thayer Yellow and Idaho Yellow are the earliest maturing. Northwestern Dent corn in the rotation experiments will not be ready for at least two weeks.

The first rate and date of seeding trial was sown on September 1. Three varieties of wheat and five rates are used in this experiment. Seedings are at fifteen day intervals. The rate and date of seeding experiment is one of the cereal projects.

The fall plowing of rotation plots was started this week; the soil is very dry and turns up very cloddy.

The following are the yields of winter wheat in the continuous cropping experiment using commercial fertilizers:

1.	Check no fertilizer	13.6 bus. per acre.
2.	150 lbs.Nitrate of soda at seeding time	21.8 " " "
3.	150 lbs. " " " in spring as top dressing	26.1 " " "
4.	150 lbs. 7-8-2 Complete fertilizer at seeding time	16.7 " " "
5.	150 lbs. 7-8-2 " " at seeding time	21.0 " " "

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

September 19, 1931.

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING SEPTEMBER 19, 1931.

HAVRE:

Temperatures for the past week were about normal for this season of the year with maximum temperatures ranging from 60 to 72 and minimum from 35 to 46. There was a trace of precipitation on the 13th and .03 inch the 19th with indications unsettled.

Fall plowing is practically complete and most of the corn has been husked and the stover cut with a corn binder.

One hundred head of spring pigs were put into a 35-acre field of Gehu corn. This field has been in corn four years continuous. This year it was prepared by duckfooting and rod weeding without plowing. The yield should be around 20 bushels, much above our average after small grain that was plowed either in the fall or spring. The corn is practically mature and excellent seed was picked.

J. G. Taggart, Superintendent of the Dominion Station at Swift Current, Saskatchewan, was a station visitor on the 15th.

JUDITH BASIN:

Cool, cloudy weather has prevailed throughout the greater part of the week. It has threatened to rain several times but only light sprinkles have been received.

Counts were made of the survival of the trees that were planted last spring in the new shelter belts. The percentage survivals were as follows: Caragana, 94, Chinese elm, 66, American elm, 44, Box elder, 98, Green ash, 82, Jack pine, 11, Scotch pine, 24, Western yellow pine, 25, and Black Hills spruce, 64. Of all the plantings made a total of 1344 deciduous and 797 conifers survived.

Maximum temperature 72; minimum 36; precipitation, .05 inch.

HUNTLEY:

Corn was harvested on the dry-land fields during the past week. Because of thin stands and uneven height the crop was cut by hand. On most plots the corn crop may be rated as nearly a complete failure but on the plots of the M. C. series light yields of stover were secured. Sorgo and Sudan grass are rapidly nearing maturity and if frost holds off for another week or ten days fair yields of these crops may be obtained.

Other field work during the week has consisted of hand-planting the winter wheat nursery, hoeing fence rows, harvesting late crops from the dry-land garden and putting up the third cutting of alfalfa hay.
Maximum temperature 80; minimum 37; precipitation, .11 inch.

SHERIDAN:

Fairly cool weather prevailed over the most of the week. Winter wheat in the rotations and varieties, and two varieties of winter rye, were sown. Corn fodder and a part of the sorgo were hauled and weighed. Final weights were taken on the sheep on pasture, the lambs separated from the ewes and the wether lambs sold. Hogs also were weighed.
Maximum temperature 90; minimum 38; precipitation, .05 inch.

DICKINSON:

Winter wheat and winter rye on the rotations were planted September 16. Russian thistles had to be mowed on some of the plots before the grain could be drilled in the stubble.

Corn on fallow and the continuously cropped plots were cut September 17. These plots had developed good ears and will probably yield more grain than those grown in rotation. A small field of Gehu planted late was cut.

Cobbler potatoes on the rotations, dug September 15, yielded 172 bushels on fallow in Rotation 414 and 122 bushels on spring-plowed wheat land in Rotation 415. Rotation 414 had 10 per cent culls and Rotation 415 had 15 per cent culls.

Dickinson, continued:

Potato varieties were dug September 18. Cobblers yielded better than any other variety. A selection of the Ohio made from seed obtained in 1928 from a farmer in the Killdeer Mountains who had grown this seed for over 20 years on his ranch without introducing other seed, gave the highest total yield though slightly less U. S. No. 1 than the best Cobblers. This selection of Ohio was also the highest yielding in 1930. Triumphs yielded only about half as much as Cobblers.

Temperatures continued above normal. Frost has not yet been recorded this fall.

Maximum temperature 82; minimum 40; precipitation, .23 inch.

MANDAN:

Agronomy

The week was characterized by moderate temperatures, moderate to high winds and precipitation on two different dates, .41 inch on one and .43 inch on the other.

The first fall plowing was done on the 14th in preparation for winter rye seeding. Winter rye and winter wheat in the rotation and tillage experiments were seeded on this date.

Most of the fall plowing in the main field has been completed. It was necessary to mow and rake Russian thistles from plots to be fall plowed, before a satisfactory job could be accomplished. The soil was drier than it has been for several years at this time. It was noticably difficult to keep the plow at a uniform depth, because of the extreme dryness of the soil. Thus far the rainfall of the week has penetrated from 3 to 4 inches.

Maximum temperature 82; minimum 38; precipitation, .84 inch.

Cooperative Grazing Experiment

A portion of the bromegrass pasture is being plowed up; a two-bottom stubble plow with tractor is being used. Here as in the rotation plowing, some difficulty is being experienced in keeping the plow at a uniform depth. An effort is being made to maintain a depth of about 4 inches.

Mandan, continued:

Horticulture

A number of muskmelon and watermelon selections were made during the week; the melons on the whole are small and late.

Squashes, pumpkins, and watermelons were harvested from the acre garden. The yield was light and the quality and size much inferior to other years.

Propagation of geraniums and coleus is in progress. Peonies have been dug and a new bed of these flowers started. The old bed was practically destroyed by some peony disease.

Guard rows have been removed from the cultural test with plums in the west field. The trees were too close together for cultivation and spraying operations, and trees were dying because of the crowding. Trees are also being thinned out in the 1919 Combination fruit patch, as they are too close together, and only undersized, poor quality fruit has been produced there in the past few years.

Arboriculture

The past week has been spent in measuring height growth of trees in the shelter belt combinations and part of the species testing blocks.

Visitors of the week included C. E. Kellogg, Assistant Professor of Soils, and J. A. Munro, State Entomologist, North Dakota State College, and Robert Gjullen, Entomologist, Montana State College.

ARDMORE:

The weather continued warm and dry, though temperatures did not reach the high level of last week.

Field work consisted in cutting the remaining fields of sorgo and in mowing the millet varieties.

The pigs in both the self-feeder and limited-ration experiments were shipped during the week.

Ardmore, continued:

Returns from the steers shipped last week were received. The lot of steers receiving barley supplement on pasture sold for $1.00 per 100 pounds higher than steers on comparable pasture without grain. A rough estimate indicates that the barley fed on pasture made a net return of about $1.50 per 100 pounds of barley.

Maximum temperature 92; minimum 42; precipitation, trace.

No measurable amount of rain has been received this month.

ARCHER:

During the week the weather continued dry though threatening at times. At such times a light spray of rain with considerable wind would occur.

All spring crops except potatoes have finished their growth. The vines of the potatoes on the rotation plots are still green. All other crops have been harvested. Winter wheat on fallow is doing well. Other seedings have either produced poor stands or are very much in need of moisture.

Work at the station has consisted of putting up silage, cutting methods and dates of seeding corn and varieties of corn, and spraying the white weed.

Maximum temperature 88; minimum 41; precipitation, .06 inch.

AKRON:

There was a sharp break in the mean temperature early in the week but no relief as yet for the dry condition of the surface soil. Corn was removed for seeding the September 15 rate and date winter wheat experiment and for seeding the winter wheat variety experiment. These two seedings were accomplished, the first on the 15th and the second on the 17th. Rotation winter wheat plots were seeded the 18th.

Other work consisted of seeding the bulk of a 3500 rod-row nursery, the harvesting of current ripening crops, and other minor jobs about the station.

Akron, continued:

Grain sorghums on fallow preparation in the variety experiment continue to make progress. Many of the early sorts now appear to be out of danger from frost and the yield promises to be average or better. The same varieties seeded on close stubble in most cases did not head. The contrast between fallow preparation and the close-seeded stubble preparation is sharp this year.

Stray Russian Thistles in isolated spots have made phenomenal growth, quite typical of a dry season. Preparations are being made to harvest these thistles and place them in the silo.

D. W. Robertson and Wayne Austin came down from the College Thursday night, September 17, and spent the next two days aiding with the winter wheat nursery seeding.

Maximum temperature 94; minimum 54; precipitation, .06 inch.

NORTH PLATTE:

Warm weather for the season has continued, but with considerable moderation from that of the preceding week.

Winter wheat and rye were seeded on the 16th to 18th. There is no available moisture in the upper 2 or 3 feet of soil except on fallow, and there the surface soil is too dry for complete germination. It is hoped if moisture comes that it will be adequate for wheat to become established. There is danger that light showers will cause germination and that the plants will soon die if rain does not continue.

Mean temperature 72; maximum 101; minimum 53;
precipitation, .25 inch, in two light showers.

COLBY:

The hot, dry weather continues in this vicinity. Adjacent territory received good rains this week, but here we received only a light shower. The sorghums are drying considerably. On the rotations the feterita is still green, but the kafir and milo plots are suffering considerably. The milo and kafir are maturing very prematurely.

Colby, continued:

The eight corn plots that were not cut last week were cut and shocked yesterday, September 18. All these will yield a fair crop of grain. Ten plots of corn still remain to be husked without the stalks being cut. Nine of these were sown to winter wheat this week. The tenth will be seeded to barley in the spring.

All the winter wheat was drilled this week on the D.L.A. project, except where wheat is to follow beans. This plot has not been seeded because the beans are not ready to be harvested. Plot MCA which was plowed just before seeding was dry, but the plots in the new project which were plowed the same day showed an ample supply of moisture under the covering of 1930 straw still on the ground. The drill penetrated to moisture on all but the corn, milo, and MCA plots. The rye was also seeded this week.

Maximum temperature 101; minimum 56; precipitation, .56 inch.

GARDEN CITY:

Seed-bed preparation work was finished the past week in readiness for planting by the last of the month. There is very little surface moisture left in the furrow slice except on early worked ground which was immediately packed or worked down after plowing. Farmers are complaining of injury by false wire worm to early seeded wheat. Conditions have been ideal for the wire worm to feed on the wheat that was seeded in a dry seed bed. Practically none of the wheat that was seeded early is up. During the entire month of September to date we have continuallyhad hot winds from the south, of above average velocity.

Sorghums are ripening very fast. Hard winds have caused some of the milo to go down. Some plots are ready to cut as soon as we can get at them.

Maximum temperature 100; minimum 65; precipitation, none.

HAYS:

High temperatures and heavy winds have prevailed throughout the week. On the Dry Land project the readings show a maximum of 103 degrees and a minimum of 99 degrees, while the Weather Bureau thermometers on the campus near the Experiment Station office show 104 degrees and 100 degrees. Thus far the September record shows only five out of eighteen days when the temperature failed to reach 100 degrees, and throughout the period, except for three or four days, heavy winds have prevailed almost continuously day and night. The average maximum temperature by the Weather Bureau thermometers for the first eighteen days of September is 99.3 degrees.

Hays, continued:

The work during the week has consisted of some late fall plowing, late fall disking, disking of some corn stubble plots, disking of some ground previously listed, heading of kafir, milo, and sorgo, harvesting of milo stover, and the collection of a few soil samples for moisture determinations.

TUCUMCARI:

Prolonged hot, dry weather has injured all crops considerably, while milo in many cases has fallen over before maturity. Climatic conditions were unusually favorable until mid-August and unusually cool weather that month prevented any retarding of crop development. September to date has not only been by far the hottest on record, but its mean temperature of 78 is a long-time July normal mean. Maximum temperatures for the month have varied from 87 to 97, with minimum ranging from 58 to 71. Wind movement has been higher than usual at this time of year. Since August 9 precipitation has totaled .35 inch, in six showers.

Station work has included harvesting MC. and early planted corn variety plots, broomcorn pulling and seeding, harvesting of bean plots and some forage sorghum varieties, and cutting of increase Sudan. Stalk counts were completed and a new row binder assembled.

Kafir is developing slowly and is firing to a moderate extent. Many milo plots are nearly mature, but dry weather has caused heads to be light, while many suckers have lodged before maturity. The majority of the grain sorghums in the early planting block are ripe enough for binding, but too green for heading. The late planted plots have in many cases fired to the top and yields will generally be much lower than on the early date.

Dry surface soil has prevented farmers on the plains section of the county from seeding wheat, although the soil was in excellent condition a month ago.

John H. Martin, of the Division of Cereal Crops and Diseases, visited the station two days the past week.

DALHART:

With the exception of a shower last night of .11 of an inch the weather has remained hot and windy during the week. The grain sorghums are drying up rather rapidly and some of the varieties are lodging as they ripen, or rather dry up. The sorgos are drying up for the most part before fully headed.

Several of the sorghum varieties were harvested during the week. For the most part these were the earlier sorghums and all showed premature ripening. With the exception of the listed plots the corn rotation plots were cut during the week. The last of the soybean hay plots were harvested during the week and a start was made towards harvesting the seed plots. All cowpea plots as well as the increase fields were weighed during the week. Drilled sorghums dried up quite prematurely and were cut during the week.

The soil is now very dry and hard. It is, and has been for some time, impossible to plow and work in any manner the ground that has not been summer worked. Late plowing is now out of the question and wheat seeding has not even started.

John H. Martin spent three days on the station during the week going over the co-operative grain sorghum experiments.

Maximum temperature 94; minimum 60; precipitation, .11 inch; wind velocity, 5.2 miles per hour; evaporation, 1.897 inches.

BIG SPRING:

Dry, hot weather has prevailed during the past week and has added just another week to the conditions which have predominated since the first of August. Wind velocity and maximum temperatures both have been unusually high for this time of the year. These dry, hot winds have caused cotton to open fast and has also cut the yield down considerably, for the bolls are opening prematurely. Grain sorghums are about all ready to be harvested as the prolonged dry weather is burning the foliage very rapidly.

Cotton picking has required the attention of most of the station force during the past week. All plots on the Dry Land project and many plots in the varieties and dates were picked. Other work has consisted of harvesting grain sorghum varieties, making stand counts and heading milo plots.

Maximum temperature 98; minimum 63; precipitation, none.

LAWTON:

A parching sun accompanied by southerly winds of more than average velocity continued to wither cultivated and native vegetation that has suffered from drought since the latter part of August.

Pastures are brown and dry, and many farmers are in need of stock water. Native grass land provides but little fall pasture and there is not much prospect for grazing on wheat or barley this fall.

Harvesting of the grain sorghum plots on the rotations was completed September 19, and only about 10 plots remain to be threshed. Harvest and threshing in the first two planting dates in the grain sorghum, chinch-bug nursery are pretty well completed with the exception of a few late-maturing varieties. Considerable work remains to be done in the third planting which was made June 1.

Cotton continues to open rapidly under the existing unfavorable weather conditions and 85 to 90 per-cent of the total crop is ready to pick. The late, unopen bolls are small and inferior, and a good many are partly cracked open.

The exhibits at the local county fair which was held at Lawton, September 16 to 19, showed a striking presentation of such grain sorghums as Blackhull kafir, Feterita, Hegari, and Darso. The forage sorghums were also well represented in quality. Individual farm displays that were competing for prizes included a wide range of well-prepared products that were of good quality.

Maximum temperature 99; minimum 72.

WOODWARD:

There is a saying in this section that it always rains just before it is too late, but this year this is not holding true. The date has now passed when seeding of wheat usually begins, but even soil prepared early and kept free of weeds is as dry as it was at harvest time. Sorghum crops which made a rapid growth to start with, due to stored moisture, have dried up over the past month making few heads. The outlook for farmers over winter with little feed for stock from either the sorghums or from wheat or native pasture is not bright.

Woodward, continued:

Work of the week has consisted of harvesting sorghum hay, alfalfa, cowpeas, mung beans, and corn, and picking the early dates of cotton. None of these crops have matured naturally, but have dried ripe from heat and dry weather. The nursery and vineyard were sprayed with a mixture of Black-leaf 40 and arsenate of lead for grapeleaf hoppers, etc. The heat and drought have made it necessary to continue watering nursery stock, shrub plantings, lawns, etc. Plots prepared for wheat on the Cereal project were cultivated during the week.

Maximum temperature 100; minimum 70; precipitation, none; evaporation, 2.996 inches.

PENDLETON:

The past week has been quite cool and cloudy. During the week .30 of an inch rain fell. This little rain laid the dust for a few days.

The normal seeding time for winter wheat in this section begins about September 15. The soil is too dry at present to start seeding operations. At least an inch of rain will be needed to put the soil in ideal seeding condition. If no rain occurs before October 10, the seed is usually sown in the dry ground in the regions in which a true winter wheat is grown. In the section in which the station is located a spring wheat is sown in the fall; seeding operations with this spring wheat usually begin about October 15, so as not to have the wheat to far along before winter sets in and also to escape late spring frosts.

The fall plowing on the rotation and continuous cropping plots was completed this week. The fall-plowed plots are very dry and cloddy, heavy rains will be needed to break up these clods to provide a good seed bed.

The surplus crops from the station were sold this week. The wheat brought 32 cents net to the station, grading number 2 soft white with one-half per cent smut. Smut is a serious problem in this county, the average sample this year grading about one per cent smut; three large lots of wheat in this county had eleven per cent smut in the threshed grain.

Pendleton, continued:

The following are some of the tillage yields of wheat after fallow:

Disked only for fallow, fallow kept free from weeds	36.7 bu.per acre.
Disking alternating with plowing for fallow:	
Disked fallow-Fallow kept free of weeds	40.1 bu.per acre.
Plowed fallow- " " " " "	40.3 " " "
One way disked for fallow-Fallow kept free of weeds	38.6 " " "
One disking alternating with plowing for fallow:	
One way disked-Fallow kept free of weeds	41.3 " " "
Plowed fallow- " " " " "	38.7 " " "
Maximum temperature 77; minimum 33; precipitation,	.30 inch.

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NOTE:

Under date of September 18, Dr. W. A. Taylor issued B.P.I. Memo. 601, reading, as follows:

"In connection with the award made by the General Supply Committee to the W. D. Campbell Company, for the furnishing of wood desks and departmental type chairs, for the fiscal year 1932, the Comptroller General, under date of August 4, 1931, wrote the Secretary of the Treasury that the aforementioned award was illegal and the payments under said contract are unauthorized.

"It is understood that an appeal has been made to the Comptroller General for re-consideration. Unless, and until the Comptroller amends his ruling, all purchases of the items involved should be made in the open market, formal bids being secured in due course where the amount involved is in excess of $50.00, and informal quotations being solicited in cases involving minor amounts.

"In obtaining bids for the wood desks covered by Item 26-640, and in the case of the departmental type chairs covered by Item 26-585 of General Schedule of Supplies, it will be necessary for us to use Federal Specifications No. AA-D 201 (Proposed Revision of F.S.B. No. 358-a) for the wood desks and Federal Specification No. AA-C-311 (F.S.B. No. 409) for the departmental chairs.

"All requests for bids on such equipment, with tentative specifications, should be forwarded to the Bureau Property Room for consideration and preparation of the necessary papers to clear through the Division of Purchase, Sales and Traffic.

"The decision mentioned above has no bearing on the Steel Desks which are also included under Item 26-640."

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NOTE:

Attention is called to the Daily Labor Record, D.L.A. Form No. 50 (in book form); and to Daily Labor Report, B.P.I. Form (in pad form). Any station superintendent not familiar with these forms and in need of them for keeping labor records can be supplied on request.

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

September 26, 1931.

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING SEPTEMBER 26, 1931.

HAVRE:

The past week has been cool and more or less stormy. Rain was recorded on six days but the total was only .49 inch. Evaporation was low.

Field work on the station is rapidly drawing to a close aside from getting feed supplies, repairing fences, and work of that character.

The remaining corn was cut during the week as well as Sudan grass and sorghum.

The first frost of the season was recorded on the night of the 22nd with a minimum of 30. The minimum on the 24th was 31.

The rain the past week was not sufficient to germinate winter wheat which was seeded on September 15. That seeded on fallow is germinating. The germination will be very light if any on other methods.
Maximum temperature 74; minimum 30; precipitation, .49 inch.

JUDITH BASIN:

Moisture in the form of rain and snow fell on the first four days of the week. The snow melted as fast as it fell but in the foothills and mountains there was a considerable depth after the storm. On some of the higher ranges more than two feet of snow were reported to have fallen. The moisture was of great value to the winter wheat that had already been seeded. There will probably be some additional acreage seeded now if the weather remains favorable.

The wet weather has delayed the digging of potatoes and the finishing of the corn harvest on the general farm. The first killing frost occurred on September 22.

All crested wheat grass plots, both 1930 and 1931 seedings, were reseeded to-day, September 26.
Maximum temperature 67; minimum 28; precipitation, .94 inch.

HUNTLEY:

The past week has been cool and except for the last two days it has been somewhat rainy. With the exception of August, when .75 inch of precipitation was received, the rainfall for the week has been greater than the total precipitation for any month since October, 1930.

A light frost occurred on the morning of the 23d. On the dry-land fields the frost injury was confined to the upper leaves of pumpkin and squash vines and an occasional sorgo leaf was touched. Plants on lower parts of the station suffered greater injury.

Field work consisted of removing temporary pasture fences and constructing a rabbit-proof fence around the wheat breeding nursery.
Maximum temperature 74; minimum 30; precipitation, .73 inch.

SHERIDAN:

Heavy rainfall occurred the first of the week followed by cool, cloudy weather and light showers the middle of the week. The rainfall was the greatest for one period that has occurred here since the spring of 1929. The soil is now wet to a depth of from 9 to 12 inches.

No field work was possible during the week. Some grain was cleaned, feed ground, and other miscellaneous work accomplished.
Maximum temperature 73; minimum 37; precipitation, 2.65 inches.

MANDAN:

Agronomy

Field work has been delayed during the past week because of frequent rains. Some fall plowing and the fall listing remain to be completed. Plowing continued during the week as weather permitted.

The total rainfall during the past 11 days has been 2.90 inches. Rain was recorded on 8 days out of 11.

While several nights have been cool and light frosts have occurred in low places, no killing frost has been recorded to date.
Maximum temperature 72; minimum 36; precipitation, 2.06 inches.

Mandan, continued:

Cooperative Grazing Experiment

The cool weather and frequent rains of the past week may cause shrinkage in the cattle. They appear to be doing well.

Horticulture

Sweet corn ears from the breeding project, and increase plots were harvested during the week. About two-thirds are slightly immature and will have to be dried artificially. So far there has been no killing frost and late vegetables are still growing in the fields. A number of muskmelon and watermelon selections were again made during the week.

The propagation of tender bedding plants from the beds on the grounds was completed Wednesday, September 23. The recent rains have improved the grounds, especially shrubs and lawns, very greatly. Renovating of permanent beds and borders on the grounds is due, but owing to the soaked condition of the soil, is postponed until next week.

A wire support has been put up for grapes and raspberries. Plum seeds for the nursery have been washed out and stored in sand. Trees that have been pulled out are being hauled to the brush pile.

Arboriculture

The measuring of height growth of trees in test plantings has been continued during favorable weather the past week. Data collected on height growth in the pruning, spacing and methods of cultivation blocks show sharp decrease in growth due to heavy top killing for Tartarian maple, boxelder, and willow species in the mulched and severely pruned blocks. These same species in the clean cultivated and neglected blocks show only a minor amount of top killing which will not result in a decreased average growth for each row.

The recent rains will greatly benefit all trees for going into the winter stage. It has, however, tended to prevent the ripening of nursery stock for digging this fall.

Visitors of the week included Robert Gjullin, Bureau of Entomology, Bozeman, Montana.

BELLE FOURCHE:

Cool, cloudy, threatening weather prevailed during the week until Friday, September 25. The weather cleared Friday afternoon, and a white frost occurred the following morning. A minimum temperature of only 33 was recorded, and no damage was done to crops. Light rains were received every day but in no instance was the precipitation much more than sufficient to settle the dust, and the soil still remains too dry for the germination of fall grain which may be seeded.

The total precipitation for September to date is only .45 inch, and September apparently will be consistent with each of the five previous months in having a precipitation of one inch or more below normal. A total of 7.07 inches precipitation have been received this year since January 1, which is approximately 7 inches below normal.

A. W. Skuderna and S. B. Nuckols, of Sugar Beet Investigations, Division of Sugar Plants, visited the station September 25.

Maximum temperature 83; minimum 33; precipitation, .44 inch.

ARDMORE:

The weather during the week was cool and threatening with high wind velocity. There were three periods of precipitation with no run off. The first killing frost of the season came on the 25th with a temperature of 32 degrees.

Millet varieties were hauled in and weighed during the week. The yield varied from 250 to 2000 pounds per acre.

The preparation of plots to be seeded to winter wheat and winter rye was completed on the 26th.

Maximum temperature 86; minimum 32; precipitation, .44 inch.

ARCHER:

Except for the last two days the weather during the week has been cool, cloudy and threatening with rather heavy winds. Precipitation occurred during the nights of September 19 and 23 with a total of .52 of an inch.

Archer, continued:

Work at the station has consisted of gathering seed corn, hauling hay, spraying white weed and threshing beans and millet. Only part of the millet was threshed when the wind and rain stopped this operation. This work was resumed to-day, September 26. Since the rain of September 23 seventeen acres of winter wheat have been seeded on the bean ground. About 15 acres of Sudan grass and 20 acres of Gehu corn are making very good pasture for the dairy cattle. Winter wheat seeded on fallow about September 1 is showing green above the furrow ridges.

Maximum temperature 77; minimum 32; precipitation, .52 inch.

AKRON:

One inconsequential shower of .20 of an inch the past week marred the almost steady run of open, clear weather which has prevailed since the rain of .94 inch last August 9.

The beans on the rate and spacing corn project, and the bean variety experiment, were harvested early in the week. The winter wheat on the rate and spacing corn project was seeded, also, early in the week, on the bean project, immediately following the harvest of the beans. Other seeding accomplished was the seeding of 2 acres of winter rye on the hog pastures across the railroad, and the seeding of approximately one-half acre increase plot of Rosen Rye. This completed the fall small grain seeding except the remaining date seedings.

The silo was filled during the week and sealed. Being short of corn, the lower half of the silo was filled with cut Russian Thistles, and the upper half with the cut corn. Thistles thus ensiled back in 1925 made good silage, though those placed on top at that time rotted.

Nursery seeding has held attention all week.

Mr. Loosli, graduate student from the Agricultural College, came down this week-end to stay during the duration of the winter feeding experiments.

R. L. Shotwell, Federal Entomologist and Mr. Cowan, from the State Entomologist's Office, called at the station Friday, September 25.

Maximum temperature 84; minimum 33 (Slight frost accompanied the temperature of 33); precipitation, .20 inch.

NORTH PLATTE:

Decidedly lower temperatures have prevailed during the week. First freezing temperature of the fall occurred last night, September 25, with 31 degrees. This is six days in advance of the average date and terminates a frost-free season of 127 days in comparison with the long time average of 153 days. On account of previous high temperatures, row crops are for the most part fully mature. Frost will do little damage except to late gradens.

Rains have been general in the state during the week, but the station received only a couple of light showers with a total of .16 inch of precipitation. The only emergence or sprouting of winter wheat is from furrow drill seeding on fallow where but a small percentage is showing.

COLBY:

So far this month has been among the very driest Septembers on record. We had two showers this week but together they amounted to less than a third of an inch. On two days it was windy and dusty. It has been cooler most of the time. The nights are especially cool.

The winter wheat sown last week is coming up spotted on the fallow plots and on a few of the others. On corn and milo ground and on most of the continuously cropped plots it is not germinating. In the date of seeding test, which is on fallow, the wheat on the earlier seedings, where it was up, has disappeared.

The sorghums are now maturing more normally, as compared with a week or two weeks ago. Then they appeared to be wilting and drying. Now they do not seem to be wilted, but just gradually ripening. The listed feterita and listed milo are standing the dry weather remarkably well.
Maximum temperature 91; minimum 34; precipitation, .29 inch.

HAYS:

At the close of two weeks of record breaking high temperature for September a rather sudden drop occurred and clouds and threatening storms came within sight several times, resulting in generous local rains in various localities, but Hays got only .04 inch; and now with extremely dry top soil, cooler weather and clear sky it looks like our chances for rain are gone and dry weather might continue indefinitely.

Hays, continued:

The dry weather is fine for harvesting of feed crops but is discouraging for the wheat grower. In this vicinity there is no possibility for a stand of wheat until after rain occurrs, except perhaps on fallow ground; however, in spite of that fact, and the fact that worms have already destroyed a large percentage of the seed sown earlier in dry soil, many drills are running in this vicinity and, for that matter, all over Western Kansas where the seeding is not already finished.

During the week the last of the tillage work for winter wheat on the project was finished and staking in preparation for seeding has for most part been done. Early next week we will be ready to drill any time we want to sow and the time will depend altogether upon the climatic conditions. We do not want to drill until after it rains and will not unless the rain is delayed too long, in which case we will have to sow in the dust.

Heading of the sorghums on the project was finished and the stover harvested and shocked.

Maximum temperature 99; minimum 37; precipitation, .04 inch.

TUCUMCARI:

Temperatures have dropped considerably the past week, but crops which were badly fired have continued to lodge. Harvesting has been necessary to prevent complete lodging of several rotation and MC milo plots, while several more plots are at least one-half lodged.

Work of the week has included completion of selecting bagged heads, binding of several forage sorghum and other plots, plowing of MCA wheat and rye and seeding MC plots and the variety wheat plots, cutting and shocking the balance of increase broadcast sorgo, and preparing for annual picnic and contest held by county club members in sewing and canning clubs.

The writer spent Wednesday, September 23, at the Dalhart Field Station. John S. Cole arrived Friday evening from Dalhart and expects to leave Monday for Big Spring.

Maximum temperature 89; minimum 46; precipitation, .36 inch; evaporation, 1.775 inches; precipitation for seven weeks, .86 inch, in ten showers.

DALHART:

A rain of .53 inch on the 22nd broke the rather prolonged dry spell. This was not of sufficient amount and came too late to do much good. A rather high wind and the beating downpour shattered the matured heads of grain sorghum quite noticeably. Very few of the grain sorghums lodged much more after the rain than before. Lodging is quite pronounced in spots in the plots and with certain varieties.

Heading of grain sorghums and binding of stover was one of the chief jobs during the week. Where parts of plots were lodged the areas were harvested. There is more marginal effect on rotation plots than usual. These marginal rows are being harvested separately. At the present time most of the grain sorghums in the May 15 date of planting have been harvested. Approximately half of those seeded on June 1 have been harvested and a start has been made on the June 15 date of planting. In the most instances where direct comparisons are available the kafir plots appear to be better than milo in the rotation plots.

Visitors during the week included D. R. Burnham and Lonnie Starr, of Tucumcari, and John S. Cole.

Maximum temperature 87; minimum 43; precipitation, .56 inch; wind velocity, 5.0 miles per hour; evaporation, 1.757 inches.

BIG SPRING:

Unusually hot weather for this time of the year, together with the continued drought, has caused cotton to open very rapidly during the past week. Cotton fields throughout this section are white at the present time with very few pickers available to take care of the crop. Milo is ripening prematurely and is falling down before it is dry enough to head.

Station work during the week has consisted of picking cotton and heading milo. All cotton plots have been picked over once and some of them twice. Milo in the rotations is being headed as fast as possible.

Maximum temperature 98; minimum 66; precipitation, none.

WOODWARD:

A rain of 2.40 inches came on the 21st and 22nd, falling slowly over fifteen hours. The soil was very dry, so absorbed the moisture like a sponge, allowing little run-off. Conditions for seeding wheat on land already prepared for it are ideal.

The rain came too late to be of much benefit to the sorghums, though it will help to fill the seed on the later ones. Stalks on many of them seem very weak and are breaking badly.

Work of the week has been largely preparing crops for seeding wheat.

John S. Cole, of the Washington Office, spent Tuesday and Wednesday, September 22 and 23, at this station.

Maximum temperature 96; minimum 48; precipitation, 2.40 inches; evaporation, 2.229 inches.

PENDLETON:

The first real killing frost of the season occurred this week with a temperature of 22 degrees. This frost killed all the dahlias, zinnias, melons, and corn and nipped the leaves of the Russian mulberry trees. Since this frost we have had fine, warm, bright days.

This region is in need of a good rain. None of the farmers have started seeding operations on account of the dry condition of surface soil of their fallow.

Work on the station the past week has consisted chiefly of harvesting rotation corn and the disking of rotation plots.

The concrete for the office basement was poured on Saturday.

Maximum temperature 86; minimum 22; precipitation, none.